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ITEMS OF INTEREST.

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Shorts from the Profession.

DR. WM. H. ATKINSON ON THE PROCESSES OF LIFE.

We want to give a specific alphabetical statement to students who attempt to investigate these things. First chaos, next protoplasm, next protista, then the mineral kingdom, the typical form of which is the crystal, next the vegetable kingdom, characterized by the cell. The function of the cell is to vegetate. Then we come to the animal kingdom. What is the principle example of that? It is the corpuscle. It is not a cell. It is a cell and something more; just as the first protista was chaos and something more.

The cell is the primal element of vegetable activity. It is simply a lump of jelly that is non-nucleated. A corpuscle is a little body. It differs from the cell in its promise as a body.

Cells are individuals, and yet they are not. Cells are at first globular bodies; then they run together and become columnar; then they press against each other on all sides and flatten and become cuboidal. Then all is squamus or pavement epithelium. As they approach the surface, the flattening becomes more marked, and they are ultimately shed as dry scales with a central nucleus. That may be round, cylindrical, cuboidal, or squamus, according to its age and mission it is fulfilling. Take that and transplant it anywhere where the epithelial body, or malpighian layer, has been taken off, and you have enough left of the capillary layer and the true skin, cutis vera, and it is capable of feeding and will make a beautiful epithelium and a new surface to the skin. The dandruff that we see on persons who are poorly groomed is shed epithelial scales. We should understand how the feeding process goes on, and how in the process of digestion something is laid by for future use, as we bank some of our money; and if we would observe the process of respiration we would have a key to unlock this mystery. We get an oxide when not breathing. When we inspire and bring the atmosphere into the air-vesicles a transition takes place. And what does that do? Just 4 per cent of the oxygen that has been grasped by the lungs is appropriated, 96 per cent is killed, and is not fit to be used till it has past the vegetable kingdom to be re-

juvenated by discharging its carbon and taking in oxygen. The next step is to get rid of the breath which is expired. If we were learners and would learn the lesson that this example teaches us, it would give us a key to unlock every one of the modes of nutrient motion from the crystal to the cell and corpuscle, the tissue, organ, system and consciousness. But I have expressed the entire roll from A to izzard.

What is our body? Nothing but a single substance, an ameba, a mere big lump of jelly that differentiates into various tissues and organs. This is proved by many examples in the practice of medicine, in physiology, and the researches of the micologist and naturalist. The alimentary, respiratory, and urinary tracts are plainly laid out in the human ameba as foresteps to the perfect organs of the body; they are made up of indifferent corpuscles that are nothing but lumps of jelly. Then heredity is involved, and under favorable circumstances there is produced a similar ova to that from which we are told that body was developed. But where did the first one come from if this is true?

“In the beginning God made man in his own image; in the image of God made he him; male and female created he them.” There is first a single cell, holding the potentiality of father and mother. First is the maternal or love side; then the father or wisdom; and then in the ongoing of these two, love and wisdom, the divine logos gives form and conformation to all planets and planetary inhabitants.

The potentiality that resides in the human ameba—that is, the ovum already vivified—lays the foundation of the three embryonal sheets, so-called—the epiblast, hypoblast, and mesoblast—the enfoldings of which give us the entire system of primal parts. Every time you have a reproduction of tissue it has to go through that same process of which I speak. First, indiscriminate chaos; then completely digested food or peptones; then protoplasmic mass; then the embryonal corpuscle, out of which all the tissues arise, as exemplified in all reproduction of structure where there is fracture of the tissues. If they are favorably situated, they repeat the embryonal condition and series of changes, so that they are undistinguishable from the original material, and are not distinguishable as scar tissue. But where the circumstances are minus in organizing power, the white connective tissue corpuscles prevail to such an extent as to make the dense scar tissue that is known to prevail so extensively in burns and other mutilations, and which is less endowed with organizing power, and most liable to retrograde when under debilitating conditions of constitutional origin.

Corpuscles may be the beginning of what are called cell division in proliferation of the new structure, with little spots as nuclei. They are being merged into one another; so when we lift the connective tissue or epithelium from the papille of the true skin, we may have

normal reproduction of the structure, or that which is less endowed and called scar tissue, or simply white connective tissue corpuscles binding the fractured parts together. These are all limitary tissues. When they are destroyed we get union between the horny layer, which is the true protection against infection.

Some do not know what Heitzmann meant by saying that all protoplasm is organized. He has shown that in the red and white human corpuscle, in which the reticulum of what he calls living substance embraces the fluid or non-living portion of the corpuscle. Our American investigators have looked and looked and still they look to the east, to Europe, for the interpretation of these fine questions, but you have followed the line of investigation and treatment of the disease of Frederick III under Mackenzie, and the German physicians have seen that no single one of them made any specific reply to the question of whether the formation was or was not malignant; but they hedged and quarreled among themselves, and Mackenzie stands the only clean-cut man in the lot. He said in the start that he did not know whether it was malignant or not. They cut some tissue and sent it to Virchow, and he said he could not find anything in it that would warrant him in saying it was malignant. After the patient died then they decided that it was malignant cancer. They give us the old saw respecting carcinoma: if the patient dies, then it was cancer; if he don't die, then it was not cancer. So you never cure cancer. There is no microscopical demonstration that shall teach us whether a tumor is malignant or not. It is not possible at this day to determine whether a tissue is malignant or non-malignant by microscopic means; and I do not hope to see it till we get deeper into physiological chemistry and understand what is the constitution of a chemical individual; what is aptomaine, a poison, or a leucomaine, and know more of the finer foods to the tissues, than is known to physiologists.—*Internation.*

Sensitive Teeth.—Editor ITEMS.—Much has been said in regard to "Sensitive Dentine" and how to remedy it. I claim that the whole trouble is contained in one small word—*cold*. Persons perfectly free of it feel but a trifle of inconvenience in the preparation of cavities. Children only ten years of age will often not admit that "it hurts."

But when persons have a cold settled in their teeth the whole tooth substance is inflamed and *exceedingly* sensitive, particularly the *defective* bone; and patients will tell us that the nerve is exposed, when, in fact, the decay is slight. To touch them in this state gives excruciating pain. I send such patients home to wait till their cold has subsided. Then no "obtunders" will be necessary.

Stillsville, N. Y.

Wm. O. LAIRD.

THE PREPARATION OF PROXIMAL CAVITIES IN INCISORS AND CUSPIDS.

DR. J. B. MONFORT, FAIRFIELD, IOWA.

There are no surfaces of the teeth that succumb to the ravages of decay as often as the proximal surfaces. After the best efforts of the operator are put forth, there are no cavities that baffle his skill more than those on these surfaces. Why? Their location is more favorable to decay, but I fear the reason too often is carelessness, a want of thoroughness in the preparation of the cavities. Unless cavities of decay are thoroughly and properly prepared the most artistic filling will fail. How often we see a beautiful filling, a monument of some one's skill, surrounded by a wall of disintegrating enamel.

It requires more good judgment, more brains, to properly prepare a cavity than to fill it.

In this paper I only wish to consider the preparation of the smaller cavities found on the proximal surfaces, involving perhaps from one-third to two-thirds of the entire surface, not those involving the whole surface.

Having one of these cavities, the first thing necessary is sufficient space between the teeth, if not already spaced; for this I prefer a wedge of dry cotton. Sometimes I use a wedge made from the handle of a palm leaf fan, or if the teeth are very close, use rubber to start them, then cotton.

After gaining the necessary space, if the teeth are sore, fill in between the teeth solidly with gutta-percha for a day or two, till the soreness passes away.

With a chisel remove all frail walls, cutting enough away to gain free access to the cavity. With a spoon excavator remove the debris. Having ascertained the extent of the cavity apply the rubber dam. Dry the cavity with an absorbent, then cut away with a chisel or bur all carious enamel. It is not always necessary or advisable to remove all decayed dentine, but it is absolutely necessary to remove all enamel that shows the least signs of disintegration; and more than this, we should remove beyond what we can detect with the naked eye to be unhealthy, a portion of apparently healthy enamel, then we may have a healthy wall of enamel for our fillings to rest against.

But just here dentists differ; some advocate extending the cavity up to the free margin of the gum and down to the cutting edge. This is done in anticipation of decay taking place in the future, either above or below the filling. This is certainly anticipating too much.

We are sometimes justified in sacrificing good healthy tooth bore for fear it may decay in the future, but not often. We usually find the tooth at this point extremely sensitive, especially when we cut into the

healthy portion, and I do not think we are often warranted in extending these cavities far beyond the limit of decay. It is cruel to require our patients, especially the young, to submit to such treatment.

We hear and read a great deal about so forming cavities that when filled the filling will touch or "knuckle" against the opposite tooth or filling. This is usually good advice, but it is often carried to the extreme. The center of decay is seldom found at the point of contact of the teeth, but a little above or below the point of contact, where the fluids of the mouth are held by capillary attraction. Consequently, if we do not have the point of contact between the filling and the opposite tooth, or between filling and filling far enough from the edge of the filling, so that the fluids held there by this capillary force will not extend to the edge of the filling the chances of decay taking place at the edge of the filling are far greater than if the point of contact was at the union of filling and tooth.

Unless we can form these cavities so the fluids held between the teeth will not reach the edge of the filling, it is just as well to pay little attention to the "knuckling" of the fillings. It rarely requires the sacrifice of much of the tooth to get the lingual and labial walls at a safe distance from the point of contact, and it should be done. If I could always have my ideal proximity cavity to fill, it would be so formed that when filled the filling should "knuckle" against the opposite tooth, the edges of the filling being far enough from the point of contact, so that the fluid held between the teeth would not reach to any portion of the filling's edge, and the necks of the teeth would be [so far apart they would always wash clean. But unfortunately we have to take these cavities as they are, and not as we would have them.

In regard to the preparation of the interior of the cavity, the walls being properly cut away, the cavity must be formed so as to hold the fillings secure, a little larger inside than at the periphery. It requires our best judgment to determine in each case how to make our undercuts and pits. No set of rules can be laid down to govern the operator.

The starting point should be made usually in the cervical wall, at a point farthest from the place we enter the cavity. A slight groove should be made inside the cervical wall and toward the cutting edge, if the shape of the cavity and tooth will permit. Where the grooves shall be made depends largely on the shape of the cavity. Undoubtedly many failures occur because the grooves have been made at the line of union of the enamel and dentine and not in the dentine. We all know how easily the enamel rods chip off when the dentine is removed from under it. This is one reason our fillings fail so often on the proximal surfaces of lower incisors. The lingual and labial walls of

enamel come so near together where they approach the cutting edge that it only takes a small cavity to destroy all the dentine, leaving nothing but walls of enamel to support the filling, which easily chips or cracks from a blow of the mallet or from other causes. Deep undercuts and pits should be avoided: leave thick, strong walls if possible, polish the edges with emery strips, leaving the edges somewhat beveled, and the cavity is ready to fill.

After filling these cavities, before dismissing your patients, tell them where decay is most likely to take place about the fillings in the future; impress on them the necessity of keeping the filled surfaces clean, and in after years they will thank you for not causing them to submit to the torture of cutting away an unnecessary amount of that extremely sensitive dentine, if at the end of five, eight or twelve years it becomes necessary to have them refilled.

If it were possible for us to keep track of all proximal cavities we fill I feel confident we would find that the small fillings stand just about as well as those covering the entire proximal surface. Many of these failures come from a want of care in removing all enamel that is not healthy. How often have we had a cavity as we thought just ready to fill,—perhaps have had one or more pieces of gold in place,—when we detect a defective point we have overlooked. And is it not safe to assume that sometimes we have entirely overlooked such a place, and thus left the starting point for decay which will result in the loss of the filling? and yet we give the tooth the blame.—*Iowa Trans.*

Animal Food.—It was not many years ago when it was thought to be almost impossible for a person to live without animal food; the man was thought to be crazy who spoke of such a thing; but as our observation increases our ideas advance, we know more of the habits of other nations, and we find that some nations live almost entirely on vegetables and fruits. We also know that some of the strongest people who have lived in the world, and who live on the Mediterranean, would take a package of three to six hundred pounds and trot off with it on their backs over the country, and they eat very little or no meat. The Japanese boys will take a lady in a chair and trot away at the rate of six or seven miles an hour, and they live almost entirely on fruits and vegetables. But my idea is not, as some gentlemen have suggested, that our normal diet is grain; the man is intended to be fruitiverous. Nature hands her fruit to you in the most beautiful shapes, such as the peach, and the plum, and the walnut, which are held out to you by the tree, and they are very tempting and very wholesome foods.—*Dr. J. T. Codman.*

PYORRHEA ALVEOLARIS.

EXTRACTS OF PAPER READ BEFORE THE FIRST DISTRICT SOCIETY OF N. Y.
DR. W. H. ATKINSON, NEW YORK.

“Flow of pus from the tooth-sockets” has long been recognized as a disease which it was impossible or difficult to successfully treat. Those who have dealt with it are divided as to the character of the departure from health, and as to the manner of treatment. Dr. Riggs regards it as a local disease, amenable to local surgical cure; while many others, mostly homeopaths, attribute it to constitutional cachexy; and still others regard it as localization of a systemic debility. My own view is coincident with the last.

The great merit of Dr. Rigg’s practice is in his insistence on the necessity for thoroughly removing *all* the altered tissue well down into the healthy structure, thus favoring reproduction by “first intention.” His demerit is his persistent denial of any utility in constitutional or local medication.

The bond of union between the tooth and its socket consists of a connective-tissue layer attaching it on its inner border with the cement corpuscles, and on its outer border with the myxomatous tissue of the gum, which in turn is covered with an epithelial coat consisting of several layers of epithelial bodies of globular, cuboidal, cylindrical, and squamous conformations. The cement-substance connecting these elements of the tissues is nitrogenized hyper-oxidized hydrate of carbon. In other words, the ameboid ectosarc is of such plasticity as readily to hold to or let go of its fellows composing protoplasm, mucus, blood, muscle, nerve, or epithelium.

To this fineness of interpretation, then, do we come at last to enable us to catch a glimpse of the territory in which the first divergence of health is displayed in every case of “pyorrhea alveolaris.”

Wasting of the cement releases the hold of the connection, which by the resilience of gum-tissue opens a gap at the point of death of ectoblastic structure. In this chasm various deposits may occur. When inflammation is induced, it may resolve or proceed to suppuration or sphacelus, caries or necrosis, according to the constitution and status of health of the body at the time. As a rule, the earlier and more manageable stages of this disease are not noticed by either the patient or the practitioner, and hence well pronounced cases are those which generally apply for relief.

Tartar, concretions of lime is never causal of disease; only concomitant or sequential. No two specimens of calcareous deposit have yielded an identical analysis. They are the result of a breaking down of tissue-elements under stress of disease in which the acids requisite to holding the lime in solution are deficient in supply, or brought into

contact with bases for which they hold higher affinity. The attempts to classify these deposits have resulted in a somewhat ambiguous nomenclature, viz., salivary calculus, serumal calculus, and sanguinary calculus.

The general term in common use to designate these deposits is "tartar," originating in a loose resemblance to the crust on wine-casks called by this term.

The three degrees or stages of this affection must be met by three degrees of extirpative energy: 1st, physiological; 2d, mechanical; 3d, chemical.

The first includes good feeding and hygienic cleanliness; the second, removal of foreign material by mechanical means; and the third, the destruction of ferments and their results, by such means as kill the spores and their products, and restore the debilitated tissue-elements, so that the physiological activities may throw off the offensive and effete matters and reproduce the tissues normal to the location.

To speak of the details of these methods of cure, and set forth their claims to attention, would involve the presentment of cases in the various stages and the special remedy to be resorted to in each. To give a mere hint of this labor, the best I can do is to give a former classification of application and remedy.

Where slight loss of the border of the gum is present, elixir of vitriol is the proper application to effect the purpose of inciting a return of physiological activity. Where greater loss of connection between tooth and socket is present, with some lime deposit, use a solution of aqua regia, one part to seven of water. In cases of greater loss of attachment and loss of considerable portions of the alveolar plates, with or without foreign deposits, use caustic paste, made by melting together caustic potash ("potassa fusa") and crystallized carbolic acid, so as to make a homogenous paste, which on cooling will be a solid and coherent mass, capable of being broken into bits of such size as to meet the demands of each case. Place these bits on the site where you wish to form the eschar down to normal growth. The warmth will melt them and allow the affinities between this remedy and the altered tissue to convert all the dead and dying parts into a scab or eschar, which will form the limit of the pocket where sloughing occurs, into which the new protoplasmic exudate will form the clot out of which to secure the new growth. Wherever the parts press on the locality so as to prevent or displace the exudate, a fixture must be resorted to to secure the clot in place long enough to enable it to be metamorphosed into the tissues normal to the part, from protoplasm (the clot) to embryonal corpuscles, myxomatous, connective, neural, vascular, and epithelial tissues, beneath which the new osseous growths will reproduce the sockets of the teeth.—*Cosmos*.

ACHING TEETH.

DR. W. E. TUCKER, BUTLER, MO.

A pulp exposed and aching, sensitive to cold air and water, I would not hesitate to devitalize by the application of arsenious acid, except in rare and favorable cases; and where it is quite inconvenient for the patient to return, I remove the nerve immediately. This can often be done with little pain by driving a pointed stick or whalebone dipt in creasote into the pulp and removing it. If a tooth is aching from a confined and congested pulp, which will be indicated by its being sensitive to warm applications and relieved by cold, do not think of applying medicine, and especially an escharotic, for it will do no good; drill into the pulp and make it bleed, and you have instantaneous relief. Apply oil of cloves or eugenol if desirable, and afterward the pulp can be removed. In some cases it will be necessary to devitalize.

I depend more on the proper use of instruments and thoroughness of work than on remedies, tho not ignoring the latter. The removal of a recently devitalized pulp is not always easily and quickly done. I would first, and always, after cleansing the cavity of decay, gain direct access to the root-canals. If that cannot be done through the cavity of decay, drill through the lingual or palatal surface, if one of the twelve anterior teeth. In bicuspid and molars direct access can usually be obtained by enlarging the cavity of decay till it comes directly over the root-canal. Tissue burs are useful for this purpose, and should be used in a right-angle attachment for the posterior teeth. If that is impracticable, drill directly through the crown of the tooth, being careful not to deface the floor of the pulp-chamber. If the tooth is one of the ten anterior teeth, either of the upper or lower, excepting the first superior bicuspid, the operation will be comparatively easy. Always apply the rubber dam and use the best and toughest instruments that can be had. I would not use a barbed instrument, except where the root is large and straight enough to insert it with perfect ease, as there is danger of breaking, and if one has an experience of that kind once, he will never want it repeated. Piano wire makes the toughest instrument I have ever seen. Take one of these with a small hook on the end, pass it down by the side of the nerve, turn it a little, and withdraw. If that does not bring it away, try it again and again. If it still refuses to come, wind cotton on a fine broach, pass it into the root, rotate, and withdraw.

Sometimes it is necessary to use creasote or ninety-five per cent carbolic acid to allay pain, or stop bleeding; it also helps to bring away the pulp. After its use I would wash the cavity with alcohol, to remove the escharotic effect. I dwell on this part of the operation

because it is often difficult, and imperfectly done. Sometimes a part of the pulp remains and is forced up to the end of the root, and we think it is out. It sometimes requires a delicate sense of touch to tell that there is a remnant of the pulp in the canal; so I would say, keep on till you feel sure of its removal. Don't be misled by any dental writers who will tell you, "That little nerve will never amount to anything; just saturate it with eucalyptus and iodoform, and you will never hear from it again." If you become tired and discouraged, dismiss your patient and have him come some morning when you are fresh, and try again. In very small canals, such as those in buccal roots of upper, and anterior canals of lower, molars, fine Swiss broaches, with temper drawn, are useful. In posterior teeth little reamers and broaches made of piano wire, $\frac{1}{8}$ to 1 inch in length, are invaluable, manipulated between the thumb and finger; you can obtain direct access, and give them the rotary movement so necessary in cleansing root-canals. One should become expert in winding cotton on a smooth broach, for it is sometimes necessary to change the cotton many times in treating a single tooth. Probably every one now knows how it is done, but they did not a few years ago. I saw one of the most ingenious dentists in the State of Missouri fail several times in making the attempt. It is done by laying the fibers of cotton along the broach, extending from the point about an inch; at this place grasp the broach and cotton firmly with the thumb and finger of the right hand, with which turn the broach and cotton rapidly, letting them slip between the thumb and finger of the left hand. After the pulp has been thoroughly removed, bathe the canal with eugenol, which will penetrate and embalm the contents of the dental tubes. The tooth is now ready for filling. For root-filling there is no other material having so many advantages as gutta-percha; it is indestructible and easily manipulated. A chloroform solution of gutta-percha, with the addition of a little iodoform, should be worked into the canal with a small broach till about full; then take a gutta-percha cone nearly as large as the canal and force into it till felt by the patient; that is evidence that the root is full. Very small and crooked canals cannot be filled with gutta-percha cones; in those cases 20 or 22 k. gold wire must be substituted, determining the size and length by the broach used in cleansing the canal. As to the best time to remove the pulp after applying the arsenic, that depends on circumstances, and sometimes on the patient, for with some, the application will need to be repeated. It is often advised to wait a week or ten days, for the dead pulp to separate from the living, but my experience does not justify me in following that course. There are about as many pulps painful at the end of one or two weeks as the next day after the application is made; hence I usually find no advantage

in waiting, but fill the tooth the next day if it suits my convenience and that of my patient better than to wait. If the tooth should be sore the next day after being filled, paint the gums with tincture of aconite and iodine, equal parts. Capiscum plasters are quite convenient, and in many cases effective. If trouble is anticipated, the patient can be supplied with them before leaving the office.—*Western Journal.*

TREATING ROOTS.

DR. LOUIS OTTOFY, CHICAGO.

As a rule, the drilling, reaming, or any other method of enlarging root canals, is pernicious practice, and should be almost entirely abandoned. When a proper entrance to the pulp-chamber has been secured, before any effort has been made to enter the root-canals, the reaming or enlarging of the canal will not be found necessary. Opening into a pulp-chamber and securing an entrance into a root canal should always be done under perfect antiseptic precautions; for this purpose flooding the cavity with a one to two hundred solution of bichloride of mercury is efficacious. Recently I have followed some interesting experiments conducted by Dr. G. V. Black regarding the antiseptic property of essential oils, and observing the property to be possessed in an extraordinary degree by the oil of cassia, which is very diffusible, I have been led to employ it for this purpose with satisfactory results. In filling the roots of the six anterior upper teeth, difficulties are seldom encountered, except from the occasional small size of the canal in the lateral incisor, which can readily be penetrated by a fine broach, if no foreign substance has been forced into it.

The rule that overhanging ledges should be cut away is inflexible when applied to all the teeth of the mouth, and it may be especially emphasized when the first upper bicuspids are in question; in the treatment of these teeth easy access is invariably necessary. The use of two broaches is good practice: introduce into the canal, which has been found, a large broach (as large a one as can be inserted), and, while leaving it there, endeavor to find another canal by means of a fine, stiff, oiled broach.

The upper first and second molars are often the source of much annoyance, because their canals, especially their posterior buccal, are sometimes difficult to find; frequently the anterior buccal canals are also difficult of approach. It is presumed that free and easy access has been secured. In extreme cases, when the canal cannot be found (generally caused by imperfect light), it is best to arrange for a second sitting; if in the meanwhile some diffusible oil, eucalyptol, for instance, has been sealed into the cavity, it is astonishing how readily a canal is

found, whose location it was impossible to determine at the previous sitting. From observing the locality in which many drill, bur, or cut in looking for the entrance to the posterior buccal root-canal, I am led to believe that either our knowledge of dental anatomy is meager, or else we are under the impression that the canals originate from the pulp-chamber very much like the legs of an inverted tripod, from the bottom of the seat, in a triangle, and hence the opening is searched for too near the posterior and buccal portion of the tooth. In making cross-sections of the molar teeth at the point of bifurcation of the canals, a triangle is never found; on the contrary, the tendency is towards a straight line between the palatine and anterior buccal roots. The canal is generally slightly back of a straight line, between these two and a little nearer to the anterior buccal than the palatine.

In filling the roots of any of the lower anterior six teeth, their tendency to bifurcate should be remembered. The use of two broaches is a good practice; one broach will often not readily pass to the apex, but a finer one sometimes follows the first broach at the opening of the tooth, passing into the bifurcated portion of the root, then entering the main channel, and passes beyond the first broach to the apex of the root. This is also often the case with the upper first bicuspids.

In filling the roots of the lower bicuspids, their extreme length should be remembered; aside from that, the canals present nothing unusual; they are accessible and easily filled.

The manner of treating the lower first molar, and the position and form of the root-canals, is perhaps less perfectly understood than that of any other tooth. It is generally described as a two-rooted tooth. Remembering that the pulp-chamber and root-canals have the general outline of the tooth, the supposition that there are but two root-canals is natural. However, we do oftener find three root-canals than two. The canal of the posterior root is the most accessible, wherever the entrance to the cavity; while ready access to the anterior canals, even in badly decayed teeth, must generally be obtained, if by no other labor, at least by the cutting away of some overhanging ledge. It will then be found that whenever the canal is bifurcated the broach will pass most readily into the anterior buccal root-canal, and often the existence of an anterior lingual canal is entirely overlooked. Using three broaches is a good way to determine the location and number of the canals.

This may not be of much consequence when the canals have one common foramen, or when the broach through one of the canals passes to that foramen; but when separate foramina exist—as I have seen them—or when the broach enters the smaller of the two canals, and does not penetrate to the apex, imperfect sealing of it is almost inevitable. In the second molars we do not find this condition, and when

access has been secured the filling of the root-canals is not fraught with many unfavorable possibilities.

The roots of the third molars above and below are less often treated and filled ; but when this is done, the necessary manipulation proximates nearest to that required for the second molars.

The posts of pivot teeth are entirely too large, especially those of the Logan crown ; on paper these posts look well, but if the root is to be cut away sufficiently to accommodate them, there will be either nothing left of it, or at least it will be weakened to a dangerous extent.

In attaching porcelain crowns to the roots of any of the six anterior teeth, whether with or without a band, no unusual difficulties are encountered ; but when the first upper bicuspids are to be pivoted, the Dutch biscuit shaped construction of the root should be remembered, and also the fact borne in mind that a post can be permitted to extend only for a short distance into the root. In crowning the lower teeth, when using posts, the flattened shape of the six anterior teeth must be remembered.

For the molars above or below, all-gold caps are better suited, and the use of posts can generally be dispensed with.—*Independent Practitioner.*

SEPTIC ROOT CANALS.

DR. W. E. TUCKER, BUTLER, MO.

In teeth of this class, pulps have been dead long enough to become gangrenous, or for complete putrefaction to ensue, an abscess, either blind or with a fistulous opening, may have resulted ; in either case the preliminary steps in the treatment are just the same. First remove the loose debris, and at least a portion of the decalcified dentine, and, if it is possible, the rubber dam should invariably be applied at this stage. After drying the cavity and saturating it with a disinfectant, cleanse it of decay before entering the pulp-chamber. The importance of suitable disinfectants now presents itself. There are quite a number, but I will only refer to a few. Peroxide of hydrogen is excellent and a great favorite with many, but as it cannot be obtained pure and fresh in many places, it may be dispensed with. Scientific investigation having demonstrated the fact that wherever fermentation and putrefaction exist there are present micro-organisms, it is clear that in the removal of septic matter the dentist needs something that will effectually destroy bacteria, and, if possible, prevent their reformation. I do not see the necessity of using a half-dozen different remedies if one or two will accomplish the desired result. For my part, I like to know which medicine to depend on, and, if I use

different kinds in a given case, I would be like the old woman who objected to taking more than one kind of medicine, for in case she should be so fortunate as to get well, she would never know which cured her. For some time I have been using bichloride of mercury almost to the exclusion of anything else, and it has given great satisfaction. It is a very powerful germicide, even when the solution is so weak as not to injure the most delicate tissues of the mouth. To make a suitable solution, which is one part to a thousand, add to 1 ounce of distilled rain water, $\frac{1}{2}$ grain of bichloride of mercury. As the bichloride of mercury decomposes or becomes precipitated, it should be made fresh quite frequently, possibly once a week. Some-one has suggested the addition of four or five drops of muriatic acid to the ounce, claiming that it not only increases its power, but also prevents precipitation. Iodoform has been much used in the treatment of the teeth, but it cannot be depended on as a destroyer of microbes, tho it is excellent in preventing their reformation, and hence is useful in combination with chloro-percha for root-filling. Eugenol will be found quite useful as a disinfectant, antiseptic, deodorizer, and obtundent. It is not caustic, but very penetrating.

But to return to our subject of cleansing a tooth of septic matter: The cavity of decay being cleansed, the pulp-chamber should be thoroughly opened and enlarged, but without defacing the natural surface of the pulp-chamber near the entrance to the root-canals; wipe the cavity occasionally with cotton dipt in the bichloride solution. In small roots it is often necessary to enlarge the opening a little, that they may be more easily entered. Now, with a small broach and cotton dipt in the solution, enter the root canal only a short distance, rotate, and remove; wipe the cotton from the broach on tissue or soft white paper, never on a napkin. Take fresh cotton, going a little deeper into the canal each time, and continue the process till you have reached the apex and the canal is cleansed of all septic matter, and all odor of mephitic gas is destroyed. The cotton should now come from the tooth clean and white. Dry with cotton and hot air, and fill as above, immediately. If you cannot succeed in getting the canal perfectly dry, it is evidence of a blind abscess, and I would not fill immediately; but after flooding the canals with the solution, or eugenol, fill the cavity loosely with cotton, and wait a few days, at the close of which time, if the root can be made perfectly dry, the process may be completed without further delay. If peroxide of hydrogen is at hand, it may be used successfully in expelling the pus, by forcing it into the sac; then the root may be filled immediately. Of course, if the root is very sore and the flow of pus very considerable, immediate root-filling is not indicated. Free vent for the pus having been made, leave the

cavity open a few days. If the abscess has a fistulous opening and the tooth is not very sore, after cleansing the canals, force the solution freely through the fistula, and fill immediately.

Now all this may seem easy to one just be of dentistry. It is true, a large majority of cases are quite simple and easy, but many present themselves that will tax the patience and skill of those of long experience. Sometimes the mouth is small, and the tooth difficult of access; sometimes it seems almost impossible to apply the rubber dam; and sometimes it is difficult to find the entrance to the root-canals, and to cleanse and fill them after being found. Then it will require an extra effort to gain free access to the root, it sometimes being necessary to cut away a considerable portion of the crown. To apply the rubber dam, where the cavity runs below the gum it may be necessary to temporarily fill with gutta percha, being careful not to force it into the pulp-chamber, and then make a new opening; or in some cases, to put a gold band around the tooth, and then apply the dam. The short piano-wire reamers are, with me at least, indispensable in finding and reaming out those difficult root-canals. It is almost impossible for them to break, and while it is unsafe to drill into roots, they can with safety be reamed out a little, thereby making the entrance of the canals more easy. A pair of light pliers, such as those belonging to Howe's set of crowning instruments, are often useful in placing these little reamers, which are then to be rotated with the thumb and finger. Now the short broaches, wound with fibers of cotton, are to be used in these difficult canals, remembering that the rotary movement is necessary to remove the contents of a canal. If merely forced into the canal, it will act as a piston and force everything toward the end of the root, instead of entangling the disintegrated nerve-tissue in the fibers of cotton.—*Western Journal.*

I have used *tin and gold together* for filling teeth for several years, and find good results can be obtained in that way, especially in teeth that are soft and sensitive. The tin will oxidize and the oxide of tin is one of the best pain obtunders I have ever been able to find. I believe, a tooth which is sensitive and will have no other filling will stand tin and do well.

In proximal fillings in molars and bicuspids I use No. 4 tinfoil cylinders to commence my filling, finishing with gold, and I have found that to be one of the best methods to prevent decay at *that most dangerous point*. Where patients are not able to pay gold prices I use tin in all cavities in which it is possible to use it.

F. C. GREENE.

DENTAL TREATMENT OF CHILDREN.

BY DR. GARRETT NEWKIRK, CHICAGO.

We often make a mistake in our estimate of character in placing children at too great a distance from their elders.

If men are "but children of larger growth" it follows that children are but little men and little women. They have in them the same elements of human nature, and exhibit fully as much variety of disposition. They have simply less development and experience, and are usually but not always more impulsive. They have not had the experience which enables some adults, not all, to exercise self control.

But on the whole, I have not been able to detect any great essential differences between children and their elders. The elder has had some additional mental growth and training. If the training has been good, it makes him the better patient; otherwise he may be worse, his mind filled with unreasonable notions, dreads and fears. I should prefer the child untrained to the adult ill-trained. I should prefer a patient with all his experience to get, to one whose experience has been unhappy and misleading.

At the outset we are quite apt, I think, to underrate the intelligence of children. They are often treated practically on the assumption that they know nothing, while the fact is they know a good deal. It is assumed that they are incapable of an understanding as to why things are done, but should simply submit out of deference to their elders and as a matter of course.

There is one thing children know and seem to know instinctively, and that is who like them and who don't. They know the sympathetic touch from the unsympathetic, and recognize their friends even among strangers.

If any dentist is affected with the mania of child hatred, if he looks on children generally as being merely in the way and better out, so far as his practice is concerned, he may as well leave them out. He will only arouse all their worse elements, and if they have any spirit it all will be manifested in well deserved antagonism.

An adult who has been trained to habits of cool calculation, may endure pain at the hand of one he dislikes, and who dislikes him for the sake of results, but children are not equal to such hypocrisy.

Any dentist who hopes to do a family practice is all wrong in permitting himself to cultivate such a disposition toward children. Children cannot help being children, with all the peculiarities incident to childhood.

As dentists, they are on our hands and we cannot evade the responsibility which devolves on us. It is the part of wisdom there-

fore, to recognize the facts and govern ourselves accordingly. We frequently hear it said: "I haven't the patience." Well, if you haven't, the quicker you set to work to acquire it the better. It is our *business* to have patience; we *must* have it. It is a confession of weakness to say we have it not. It is shameful to cultivate impatience.

Now, as to some points of difference in dispositions. I have found that some children have considerable reasoning power at a very early age. One four years of age could not be induced to take castor oil, the taste of which he abhorred above all things, but when its action was explained, and the reasons for its use given in simple terms, he took it like a Major. This child endured several operations on his teeth when the uses of filling had been explained to him. He was very strong willed and often obstinate, but when he was made to understand that the operation proposed would be valuable to himself, his will became an ally instead of an antagonist.

A reasonable child, with a spirit and temper of his own, will consent to the endurance of pain if the consideration of a benefit to be derived is explained. With a child of this sort it is necessary to have an understanding beforehand with regard to what shall be done, the time required, etc. He will not submit without an agreement, and he will not agree without what seems to him good and sufficient reason. Especially is this true regarding first operations, before one has acquired the child's full confidence.

Attention. Sometimes it is difficult to get this long enough even with a reasonable child, to make him understand what you purpose doing. Here a dentist needs to be something of a teacher. Often the child, like the adult, is a victim of false education, and comes to the office with his head full of wrong ideas. His preconceived notions and his fears prevent the calm and logical action of his mind. No time can be better spent than in getting acquainted with such a child. Whatever is done, whether it requires one visit or three, his apprehensions must be sufficiently removed to permit of a reasonable talk and understanding, before any operation of importance is attempted.

The curious child—the child full of curiosity. I think he is in the majority, but there are some especially curious with reference to things mechanical. Such children are usually of a friendly disposition, and if greeted cordially, made to feel at home, are readily approachable by the way of their curiosity. A great many things in the office are objects of immediate interest to them; they ask many questions which should be answered as satisfactorily as possible. Such a child should be given a hand glass, that he may see his own teeth in the preliminary examination, and then during operations so that he

may view the various steps taken and their final results. His interest is half the battle won. It is unfair, unwise and unkind to require such a child to just sit and submit to whatever we choose, without giving him anything to do, or to divert his attention. Under such circumstances the sitting becomes simply an unrelieved tension on his nerves. Many adults find such treatment hard enough, and who can blame the child whose nerves refuse to bear the strain? As a principle of good common sense give the child somewhat to think about besides the one thing of simply enduring pain.

The nervous child. This type is well illustrated by the case of little Alice G., aged 7. She has been in the chair quite often, and I have filled several of her teeth, including one devitalized. She has never been hurt much. She is brave, but still has a nervous dread of every new operation proposed. It became necessary a few weeks since, to remove the almost rootless crown of a lower deciduous molar (her first bicuspids are coming very early). For fully five minute she sat in the chair trying to get courage to let me apply the forceps. She would resolutely place her hands on the arm of the chair, steady her head in the rest, open her mouth; but just at the critical moment up the hands would go in spite of herself. Beads of perspiration stood on her forehead, and she would say, "I can't, Oh, indeed, I can't!" After several attempts with the same result, I said, "Well, we won't try any more now; we will wait till another day." I sat down by my desk, called her to me, and we had a quiet talk. I explained to her the conditions surrounding the tooth, its relations, to the new one coming, and that its removal would not be very painful. She said, "I want it out, and I think I will be brave, but such an awful fear comes over me, I don't know why it is, but I tremble all over." Now, what sort of a man is he who could have any feeling other than tender sympathy for such a child as that?

Before she left the office she came to me and said, "Doctor, I believe I can have it out now, really," and she did. Her will had conquered; kind words, a little time to rest and to think had smoothed her unruly nerves, and she went through the operation beautifully.

The proud child is one whom we wish to treat with considerable deference and respect, as tho he or she were already quite a man or woman. It is best to assume with him that, of course, he is going through all right. He is apt to feel it would be a disgrace if some other child of his own age or younger should endure operations better than he; and so you may appeal strongly to the proud child by a casual mention of the operation you have done for Johnny D. or Mary G., and how quiet and brave they were. Without saying anything he will determine in his own mind not to be outdone by them.

There is also the child who may or may not be proud, but who particularly loves approbation. It pays to give him all the praise he deserves, and possibly a little more to take notice of his possessions and whatever pertaining to himself may be admired. Our appreciation of him and his is the best evidence, in his estimation, that we are worthy of confidence.

On the other hand we find children, as we do adults, who are not particularly intelligent or reasonable; not specially nervous or timid; not proud, and with very little, apparently, of approbative ness in their dispositions. Their ears are dull to argument, they don't care what others have had done, and they don't seem to care what anybody thinks of them; tho this is usually a blind; because to some extent, they do care. But they are *secretive*, and they are *obstinate*. They would appear to be just made up of a great big *I won't*.

In addition to or without this simple obstinacy of character another has a good deal of active combativeness. He has been born belligerent. His first cry was a bugle call to arms; his first hat carried a chip. "He smelleth the battle afar," expects martial music wherever he goes, and especially with the dentist, whom he instinctively feels is a born adversary.

There are several ways of dealing with the obstinate or the combative child who is more frequently a boy than a girl. One way is to lose one's temper and general self-control. This means failure with a child of any age from six to sixty. One way with the combative child is not to oppose a combative spirit to his. If he seems determined not to let us do what may be necessary; say to him kindly, but firmly, "Very well, I cannot compel you to be a good boy. I am willing to do what I know will be for your good, but it is your interest, not mine, that is concerned; it really makes no difference to me, and it shall be just as you say." Throwing all the responsibility on himself takes him by surprise and turns his thoughts into a new channel. Refusing to have a combat with him throws him "off his base," so to speak. This sort of let-alone policy, especially with the older boys, will often have the effect of sobering them very quickly.

The obstinate child, as before remarked, is usually secretive, and you can scarcely tell at times what he really thinks or intends to do. Often, however, he is at heart of a friendly disposition toward those who have once acquired his confidence. With such, especially the smaller ones, it is best to skirmish awhile, till one finds some place favorable for attack. Once penetrate the outer works of their resistance, get a little acquainted; in other words, approach them on some ground of mutual interest, and they become as faithful friends as one could wish.

It is a doubtful experiment to attempt to control any child by sheer physical force. If a child submits, as he may do after a brief resistance, from a sheer sense of helplessness, it may be only with determination never to enter a dental office again. Unless the case is of extreme emergency, and as a last resort, the exercise of physical control a necessity, I should certainly prefer to let the child go indefinitely, waiting for his own consent to operations.

Moods. Children, like grown people, are subject to moods; they are not always the same. They are different on different days, according to bodily conditions and states of the weather. If conditions seem to be unfavorable; if the child is more than usually nervous; less self-controlled, it is better to let him go home with little or nothing accomplished beyond an examination. Especially is this true of first visits.

Now, I seem to hear objections to all this, that it takes too much time. It is true, primarily it seems a waste of time. We cannot always charge for it, but in the end it will pay, if not in woney, certainly in moral influence. But, as to the time, we may avoid loss to some extent, by making short appointments. Appointments for children should always be short—seldom, if ever, more than half an hour, and often less.

I add a few general rules and considerations.

First. With all children we should be strictly truthful, not deceiving them ourselves, nor permitting others to do so in our office. Confidence is everything, and cannot be obtained by deception.

Second. Next to truthfulness as to facts, genuine kindness and friendliness; make them feel that we have their interests at heart.

Third. Treat them more like ladies and gentlemen than it is usual for people to do. Appeal to their sense of manliness and womanliness. Use gentle tones in speaking to them—this has often a wonderful influence, and not alone with children.

Fourth. Remember that *patience is first and last and has no limit.*

Fifth. We should be exceedingly careful in our manipulations. All nature cries anathema on the man who will needlessly or carelessly torture a child. *It is imperative that we have delicate instruments kept in delicate order, and handle them delicately in the mouths of children.*—*Dental Review.*

Exhaustion.—Instead of working till we are wearied, and then ceasing, most of us are apt to continue till we are exhausted. Our collapsed condition at the close of the day shows that our system has suffered from shock, and, where kept up from day to day for a long time, cannot fail to injuriously affect us.

DISEASES OF THE MAXILLARY SINUS OR ANTRUM.

DR. LOUIS JORDAN, DELPHI, IND.

It was not till the knowledge of anatomy had made considerable progress that the existence of this cavity was known. The credit of a correct description belongs to Nathaniel Highmore; hence its name, "Antrum Highmorianum."

This cavity is subject to some of the most formidable and dangerous diseases the medical or surgical practitioner is called on to treat. Diseases are sometimes here met which only ends in death. An old gentleman, a farmer, in the seventies, had been afflicted for many years with fiddolerean, and, getting no relief through medical aid, came to consult me. I told him I would try a remedy, but was doubtful of its doing him any good. It was a preparation of salammoniac. It had but little effect, and he lingered for two or three years more, afflicted with most excruciating pain, till death relieved him.

It is not all the diseases of the antrum that are of so dangerous a character; some are simple and easily cured. Those that are recorded as the least dangerous, and would yield most readily to treatment in the earlier stages of the disease, often, if neglected or improperly treated, assume a new and aggravated form, and bid defiance to the skill of the physician and surgeon.

The form which the disease puts on is determined by the state of the constitution or the sequence of some disease badly treated. The cause, which in one person would give rise to a simple inflammation of the lining membrane, or mucous engorgement of the sinus, would in another produce an ill-conditioned ulcer, fungous hematodes or osteosarcoma. In many cases of disease of the maxillary sinus, the danger to be apprehended results more from neglect than any necessarily fatal character of the malady.

In forming a prognosis, the circumstances to be considered are the state of the health, the progress of the affection, and the nature of the injury inflicted by it on the surrounding tissues. In young or middle-aged persons of good constitutions, a morbid action may exist in the antrum for years without exhibiting the least alarming symptom. Where the constitution is less healthy, it may rapidly change into a form of disease so malignant as to endanger the life of the patient. The qualities of the secretions are changed, and a nauseating, fetid odor is thrown out. In many instances it is almost insufferable, and when prevented from escaping through the natural channel into the nose, they discharge through one formed by art, or break through the cheek, alveolar border or palatine arch. It may exist for weeks or months before its presence is suspected.

Man is not the only animal affected with disease of the antrum. Dr. William Cook says a disease prevailed among cattle which caused them to go mad, and it was believed they were bitten by a mad dog. Having a desire to ascertain the seat and nature of the malady, he examined the head of one that died of it. He first directed his research to the brain, but no abnormal appearances were observable; he then laid open the superior maxillary cavity and found it filled with fetid matter.

The extremity of the root of a tooth may perforate the sinus, causing inflammation of the lining membrane, and when matter is thus formed in the alveolus of the superior molars, instead of forcing its way through the socket of the tooth, it will escape into that cavity, mixing with its secretions, and pass out through the nasal opening.

Inflammation and ulceration of the pituitary membrane of the nose may extend to the maxillary sinus, but it is seldom that both are affected at the same time.

Diseases of the nasal fosse, as catarrhal affections, may occasionally give rise to the morbid condition of the maxillary sinus. Concealed as it is, with the essential part of the superior maxilla, and being connected with the nose by a very small opening, it would seem beyond the reach of most causes to which diseases of the nasal fosse are attributed.

The opening of this cavity may sometimes be closed by a disease in the nose; and, if so, it is followed by a mucus engorgement of the sinus, inflammation of its lining membrane, and dissention of its osseous walls, and sometimes by a more complicated disease, as polypus.

The pain occasioned by a diseased tooth is often severe, and the inflammation excited by them in the aveoli dental periosteal and gums frequently extends to the whole of one side of the face. Some writers attribute these affections to the morbid condition of the teeth and alveoli, other diseases, blows on the face, and exposure to cold. The pituitary membrane of the antrum is shielded from the irritating agents to which it is exposed in the nasal fosse and other cavities. It would seldom be affected with inflammation were it not that it is frequently acted on by morbid-excitants, the influence of which seldom extends beyond the alveolar border and face. Febrile and gastric affections, eruptive diseases, as measles, and small-pox, syphilis, excessive use of mercurial medicines, scorbutic or scrofulous diathesis of the general system, and anything that will enervate the vital powers of the body, increases its irritability.

Boyer describes the symptoms as a very severe fixt and deep-seated pain under the cheek, extending from the alveolar border to the lower

part of the orbit, local heat, pulsation and sometimes fever. Deschamps distinguishes the symptoms from other affections of the cavity by a dull, heavy pain in the region of it, which, he says, becomes sharp, and extends from the alveolar to the frontal sinus. He tells us this malady cannot be confounded with any other, if there is no external visible cause. Suppuration and ulceration have peculiar signs which cannot be confounded with those of inflammation.

IN PRACTICE.

In the latter part of the summer of 1862, A. Anderson, a potter by trade, residing in our town (Delphi), was attacked by a severe pain in the antrum, extending, as Boyer describes it, from the alveolar border to the orbit. He applied to his physician, Dr. Thomas, who thought that the extraction of the first superior left molar would relieve him; but, in attempting it, failed. He then sent the patient to me, but I failed. The pain grew so severe as to almost distract him. I advised him to go to Lafayette and consult Dr. Moore, and, at his request, accompanied him. Dr. Moore tried to extract it, but failed. He then extracted the wisdom tooth, thinking it would relieve him. It was with difficulty he extracted it, and no relief was given. He then perforated the antrum with a drill; but no pus followed. The pain ceased and we returned home. I kept a pledget of cotton dipt in creosote in the orifice for several weeks, renewing it daily. In the meantime I had occasion to go east, and, in my absence, he neglected it. When I returned I found the orifice closed, and the pain as severe as at first. I perforated it again, and applied the cotton pellets with creosote, and, continuing it for six or eight weeks, succeeded in effecting a cure. He had no decayed teeth in either jaw.

In the spring of 1871 Dr. John Richardson (now dead), of Delphi, had a scrofulous case that baffled him. A young man of eighteen years was attacked with a severe pain in the frontal sinus. The doctor brought him to my office to have me examine his teeth. I found them but little decayed. After a consultation we agreed, the pain being on the right side, to perforate the sinus near the front and lateral incisors in two places, which I did, applying carbolic acid on a pellet of cotton in the orifices, renewing it every day. This I continued for about two months, the doctor at the same time treating him. The pain ceased, but the doctor continued his treatment till his patient fully recovered. He is at this time in good health, and while his teeth are not in the best condition, the roots are filled, and he has not experienced pain in the sinus since I treated it.

A minister of the gospel in Delphi having the superior left lateral incisor decayed wished to have it filled. The nerve being dead, I proceeded to treat preparatory to filling the fang and tooth. By the

time I was ready to fill it, he accidentally broke it off. I then filled the extremity of the fang, leaving it for some time before inserting a tooth, to see if it was properly filled. I then inserted a Bonwill tooth. After wearing it some time he broke it. I put on another, and after wearing it for some time an abscess formed near the front tooth. I attempted to heal it and failed. I then advised him to have it extracted, but he refused. I continued treating it, but had no success in getting it healed. I at length succeeded in extracting it, but found no inflammation in the periosteum. I treated with carbolic acid for some time, and it seemed to grow worse instead of better. A physician who knew of the case, looked at the abscess, and, probing it, found the process around the front incisor exfoliated. I then commenced cutting the exfoliation away, syringing once a day with listerine. Some ten or more years ago he had the lachrymal ducts operated on, since which matter would form in the corner of the eye, and the tears would flow over instead of through the duct. The abscess appeared to follow to the apex of the tooth directly toward the duct. The disease has been there for a great while, and is not altogether healed at this date.—*Ohio Journal.*

A DENTAL ALPHABET.

BY "MRS. M. W. J."

Arsenious Acid, as a devitalizing agent, is improved by being kept in a vial under creosote.—*E. E. Shattuck.*

Band-gold :—pure gold $\frac{1}{2}$, coin-gold $\frac{1}{2}$. Band-solder :—band-gold, as above, 89, silver 7, copper 4. Crown cusps :—pure gold 15, platinum $1\frac{1}{2}$. Cusps solder :—band-solder, as above, 89, silver 7, copper 4.—*J. J. R. Patrick.*

Cocaine—To secure entirely local action, dissolve 4 to 8 centigr. cocaine in 10 to 20 drops of water, to which has been added carbolic acid in the proportion of $\frac{1}{2}$ to 100.—*Yelschow, Berlin.*

Devitalize pulps with arsenium album mixt with campho-phenique.—*J. G. Harper.*

Equal parts powdered charcoal and pumice, stirred into water till of a muddy consistency and thickened with plaster, makes neat soldering-blocks.—*Van Waert.*

Free. You are free to make or use Dr. Harwood's new nitrous oxide blow-pipe, on which there is no patent.—* *

Guiacol replaces creosote to advantage, because constant and unchangeable.—*Sahli.*

Hold your rubber-dam in place with rubber ligatures.—*Morrison.*

If there is any tendency to gingivitis, be cautious about using a crown with a band under the gum.—*Ottolinguï*.

Jaksch, Dr. R., says that iodoform in itself is utterly worthless as an antiseptic and germicide, and advises sterilizing it, which he says is best done by combining with creolin, which also deodorizes it.

Knife-shaped pieces of Arkansas stone are the best thing for sharpening burs. The stone blade can be sharpened by rubbing on a piece of fine sandpaper laid flat on a table.—* *

Let your patient have the piece of rubber-dam you have used exclusively for him, to be cut into strips and used to pass between the teeth.—*Morrison*.

Make your crown collar of platina and iridium, which will not tarnish from acid oral secretions, and irritate the membranes.—*Evans*.

Neutralize creosote on the lips or cheeks with vinegar.—*Atkinson*.

Oily dressing in a root canal, as the essential oils of cajeput, caraway, peppermint, etc., are pleasant to taste and smell, are both disinfectant and anodyne, are not dissipated by fluids, and do not impair the efficiency of cementum or pericementum.—*Harlan*.

Place on the mandrel, to sharpen instruments, three disks—one of thin metal, one of pasteboard, and one of emory paper, forming a flexible cushion, with even surfaces and no grooves.—*McLean*.

Query—Will Dr. Blivan's crown, used in bridgework by soldering to the backing, infringe anybody's patent? Dr. B. takes a plate tooth and bends the pins around a Logan crown-pin, packing tooth-body around the pins, and baking in a furnace.—*Ottolinguï*.

Remove a loose or lost tooth, on rubber plates, with copper amalgam; countersink an opening behind the tooth and fill with prepared amalgam, and press the tooth home.—*Whipple*.

Scrape and file your celluloid blank to the exact form you desire your plate to have, before molding. It will then *come out* ready for the mouth.—*Seabury*.

To strengthen a weak root for a crown, fill it with amalgam, reaming out to fit the pin the next day.—*Ottolinguï*.

Use chloroform in the laboratory for its preservative and disinfectant properties, as it interferes with the vitality of micro-organisms.—*Salkowski*.

Very hard copper die-plates, for stamping gold crowns, can be easily made of copper amalgam, pressing a selected natural tooth-crown into the prepared amalgam placed in a half-inch square hole in a block of lead.—*Whipple*.

When your office-boy has a spare hour, let him make your laboratory-soap, as follows: Cut up a pound of good bar-soap and melt in a pint of water, into which has been stirred $\frac{1}{2}$ lb. soda, 1 lb. pumice, and a few drops of pleasantly flavored essential oil. When cool, cut up in cakes.— * *

Xcellent cement for broken casts and models is made by mixing glycerine and litharge.— * *

You will find that *soap* rubbed on the edges of your disks, or on the dam itself, will prevent catching and tearing the rubber-dam.— * *

Zinc oxide, carbonate of lime, and cocaine, make a soothing application to an aching pulp, which hardens into a perfect capping for exposed pulps.— *Genese.*

CARELESSNESS.

BY H. H. HARRISON, D. D. S., CADIZ, OHIO.

It became my duty, a few days ago, to extract an upper second molar for a gentleman from New York City, where the tooth had been filled, about three years ago, by a reputable operator with amalgam; the filling crowded up over the cervical wall and forced up between this tooth and the wisdom tooth. The filling became such a local irritant to the surrounding tissue that absorption advanced rapidly, and, when operated on by me, the wisdom tooth was destroyed, all the process gone, and a portion of the palate bone considerably absorbed, as well as much injury to the adjacent first molar—and all by absolute carelessness.

Whether the entire cause of the destruction was due to the mechanical irritation, or that the mercury in the filling had been sufficiently absorbed to produce mercurial poisoning, I am not prepared to say, for there was evidently some physical indications of the latter, but am of the opinion that both were instrumental in bringing about the unfortunate results.

This, with many like instances, proves the necessity of great care in filling obscure cavities, and argues greatly in favor of cutting the cavities so that every part is thoroughly accessible and freedom of manipulation gained. One thing should always be kept in mind, that no filling should extend beyond the cervical border of a cavity, whatever the surrounding circumstances may be. Such blunders as related seem almost unpardonable at this age of dental attainment, and yet we meet many.— *Archives.*

EDUCATION OF THE JUDGMENT IN DENTISTRY.

DR. GEO. B. CLEMENT, MACON, MISS.

Suppose I am an oculist. At once I cultivate a delicate touch, a steady hand. I train my sight to magnify the delicate structure of the eye. This gives me judgment, and every operation slightly increases the value of my judgment. I have in view the desire to educate my judgment, of elevating its standard. I shall compare, reflect, observe, and every operation will grow better.

Judgment is produced by knowledge of fundamental laws, and he who expects to rely on his judgment must rely on his knowledge. The more knowledge we have the more capable we are of judging.

These fundamental laws must be *facts*, these facts will create ideas. Compare these facts and ideas, and if our judgment is good the result is truth.

Again in the education of judgment we must cultivate a disposition to observe and reflect. No profession requires more reflection than ours, for every operation is a delicate observation.

We must not seat our patient and ask each one the same questions from mere habit. When a thing becomes a habit, unless it is an exceptionally good thing, it at once loses its virtue. We have no time to allow idle habits to crystalize about us. We must have a definite object in view, we must strive to reach that object. We must compare, observe and reflect with a purpose, and let that purpose be the education of judgment.

Don't rely too much on others for instructions.

“ Think for thyself, one good idea,
But known to be thine own,
Is better than a thousand gleaned
From fields by others sown.”

Dental students too generally leave the faculties which relate to judgment uneducated, and leave their decisions at the mercy of ignorance.

Many a dentist without judgment is attracted by the glitter of gold as a thing of beauty, and the music of the mallet as a sound of sweetest symphony. He wishes to build to himself a monument of *gold*, which shall stand out in bold relief to perpetuate his *name* and skill forever. He forgets that “a crown of roses fade, but a crown of thorns endureth.” He forgets that to lay the foundation for a monument there are rules and regulations. This is the result of an uneducated judgment. I find some old practitioners destitute of judgment. It is only after a long experience that students at large see the advantage of fundamental principles. They want the practice before the theory. We should never rest satisfied with having done well, but be constantly trying to

improve and do better. If injudicious friends have flattered us into the belief that we have a remarkable genius, the sooner we get the foolish notion out of our heads the better. He who believes himself a great genius seldom becomes a distinguished man. To educate a man is simply a preparation that he may educate himself. There is no excellence without great labor. It is the fiat of the fate, from which no power of genius can absolve you.

“Nothing great is lightly won,
Nothing won is lost;
Every good deed nobly done
Will repay the cost.
When the world is cold and dark
Keep an end in view,
And toward the beacon mark
Paddle your own canoe.”

A man is wise while he continues in the pursuit of wisdom, but when he once fancies he has found the object of his inquiry he then becomes a fool. Learn to pursue knowledge, as the man who is blind, who never takes a step till the ground is first examined with his staff.

The profession of dentistry is a vast sea of unexplored knowledge. We are vessels sailing on its bosom. Our prudence is our sails, the sciences serve us for oars, good or bad fortunes are the wind, and *our judgment* is the rudder.

Without this last the vessel is tossed by every billow, and will find shipwreck in every breeze.—*Mississippi Trans.*

PENNSYLVANIA COLLEGE OF DENTAL SURGERY.

The portrait of whose Dean is found as our frontispiece.

In Philadelphia, December 15th, 1845, the Pennsylvania Association of Dental Surgeons was organized. Its first officers were G. A. Plantou, president; Ely Parry, first vice-president; Stephen T. Beale, second vice-president; C. C. Williams, recording secretary; Robert Arthur, corresponding secretary, and F. Reinstein, treasurer.

It was to the energy and persistent efforts of a few members of this society that the *Philadelphia College of Dental Surgery* was chartered in May, 1850. We mention this fact for the purpose of emphasizing what must be recognized by every one, viz.: that before efforts can be crystallized for more direct educational purposes, individuals must be brought together in an associative capacity. The more general must precede the special.

It was soon after the organization of the above named society that five of its members fruitlessly endeavoured to procure the passage of an act by the Legislature of this State, incorporating a dental college. Some months later a second committee was appointed by the Pennsylvania Association to repeat the effort. On visiting the Legislature they

were surprised when informed that a member of that honorable body had in the interim quietly procured a charter and placed it in his inside pocket, anticipating that at some time in the near future it would be available with himself on the Board of Corporators. This second petition was buried and memorialized by an agreement made with the Hon. Member whose prophetic vision had been realized. The representative of the law-making power, however, permitted the Committee of the Pennsylvania Association to nominate the following gentlemen to constitute the Faculty: T. L. Buckingham, Robert Arthur, Elisha Townsend, Ely Parry, and J. D. White. After this, the prospectus was issued, and the first session opened November, 1852. The life of the college was limited to four sessions; nor were these peaceful; for the *Hon. Member*, possessing such *wisdom and fore-thought*, was a burden, indeed, for the faculty to carry. His desire to promote the *honorary department* made such degrees, lively competitors of the regular graduates, the latter numbering 63 in the four years, and the former 22. It was on this rock that the faculty and corporators split. The former at the close of their session in February, 1856, withdrew and obtained a charter from the Legislature for the "Pennsylvania College of Dental Surgery," and opened its first session November, 1856, with the following Faculty: Elisha Townsend, Ely Parry, Robert Arthur, J. F. B. Flagg, and T. L. Buckingham. If space permitted the names of many of the sixty-three graduates from the old school could be mentioned, in connection with honored positions in the profession; conscious of the advance it has made since they were inaugurated into its responsibilities, they are all alive to the necessities of unslackened efforts for its further promotion by association and education.

The Pennsylvania College of Dental Surgery has from its inception, November, 1856, pursued a quiet, unostentatious course, always striving for breadth and height in professional and philanthropic growth; not that all its faculties as a whole have been equally interested in what might be termed innovations on established customs, nor that every individual in any faculty as it may have been constituted at any limited period, fully sympathised with the thoughts and acts of individual members. This has been well illustrated in the course it has pursued in the dental education of women.

In 1866, Prof. James Truman, of the chair of Dental Histology and Operative Dentistry, believing that *capacity* rather than whim or prejudice should be the sesame to avenues of employment, did in his public address to the class on commencement day, make a clear and positive statement regarding the peculiar fitness of dentistry for women. This announcement falling on ears dulled by apathy, induced from beaten paths traveled too long, was rather startling, not only to

his colleagues, but to the profession, who felt that *their industry* had little to fear from encroachments in that direction. This "bold" announcement, however, was destined to bring visible fruit in the near future. Its period of incubation had not been previously recognized, but with the session of 1868, came the full-fledged idea in practical shape—Mrs. Henrietté Hérschfeld of Berlin, presented herself as a matriculate, and while Prof. Truman stood firm, and accepted it as a realization of his prophetic remarks two years previous, the majority of his colleagues were doubtful; and while first deciding adversely to her admission, she was finally accepted, and finished a two years' course of study with great acceptability. The change is now permanent, but for sometime the college faculty has not been more opposed to receiving lady students than would naturally result from a varying sentiment; and for last few years, every member of the faculty has warmly welcomed the new student in the garb of womanhood as manhood; and all, in any capacity connected with the school, freely admit that in all struggles for existence, incapacity or disqualification can be the only barrier for admission to any industry. Every year finds eight or ten women in the class, and with great emphasis can it be said, that as students or as subsequent practitioners of dentistry, woman stands a peer with man. The women graduating from this school have been as follows: 1869, one; 1874, two; 1880, two; 1881, three; 1883, five; 1884, six; 1885, two; 1886, seven; 1887, three; 1888, four; and the coming commencement, to be held March 1st, 1889, will probably add to this list five more which will make forty women who have taken the degree of Doctor of Dental Surgery from this school, while the same commencement will add about eighty-five men to those who already hold the degree from the Pennsylvania College of Dental Surgery, making male graduates about 1,335, or total, men and women, 1,375.

This school is the third permanently established. It has witnessed many changes which have been of the greatest importance to dentistry as a profession. The increase in the number of schools, which has been great, is of minor importance when compared with the more extended courses of study and the more rigid final examinations which are required by the better class of schools, and with which the faculty of this school, however constituted, has always been in full sympathy. Another change occurring in the last few years worthy of note, as a factor in the interest of higher education, is the increasing demand for the more thoroughly educated dentist, and this not only by the profession, but by the public at large; this demand being consistent with the encouragement the latter gives to the skilled workman in every industry.

A NEW ALUMINUM PROCESS,

MESSRS. BRIN BROTHERS, the inventors of the industrial process of separating the oxygen from the nitrogen of the atmosphere, recently showed some experiments in connection with a new process of making aluminum alloys, at their laboratory, 9 College Street, Belvedere Road, London. An ordinary but rich clay was mixt with a reducing agent called by the experimenters "a flux," and made into a paste with water. Some pig iron which had been run into bars three-eighths inch thick and two inches broad was broken into pieces. These were meared with the clay and alternate layers of coke put into a small cupola. A further quantity of coke to fill the furnace was put on the top of the charge, and the blast from a fan turned on. In about twenty-five minutes the pig iron had melted. According to the inventors, nascent aluminum is produced in contact with the molten iron, and penetrates it, the effect of the combination being to reduce the melting point of both metals and to yield a more fluid product than either separately. The contents of the furnace were then discharged into a ladle, and castings were made of the "aluminum steel," containing about 1.75 per cent aluminum. The nature of the flux was not revealed, as Messrs. Brin have not yet completed all their patents, but the inventors state that its cost is not higher than that of the clay used. The castings were exceedingly sonorous, for when suspended by a string and struck with a piece of metal the vibrations lasted from thirty to forty-five seconds. The castings were of white fracture, and free from blow holes. The silicon and some other impurities of cast-iron are thrown out in the form of slag. The aluminum has thus a twofold function in this process: It forms definite alloys with the iron, and aids in clearing out its impurities.

In another experiment the ready manner in which aluminum can be reduced by the process was illustrated. A piece of thin, soft scrap iron was coated with the clay and their reducing agent as a flux, and inserted in a blow-pipe flame. At a bright yellow heat the clay was reduced, and metallic aluminum became occluded in the whole thickness of the iron, giving the latter a white surface. The resulting metal, instead of being soft and pliable, became tough and springy, and it was claimed had acquired all the properties of first class steel. A piece of the original scrap and some of the alloy thus made was put into strong pure nitric acid; the latter was not acted on: while a piece of the original scrap iron was rapidly attacked. The proportion of aluminum in the steel produced depends, within certain limits, on the proportions employed of the original ingredients for charging the furnace. Alloys of copper and of some other metals can be formed in the same way. Some copper aluminum bronze was exhibited; also

such a bronze alloyed with from 17 to 20 per cent steel. This alloy can be made hard, and with a fracture like fine cast steel; or, by careful annealing and repeated rolling, a fibrous texture can be produced. Mr. Frederick Varley, who has made experiments with Messrs. Brin's aluminum steel, states that it has all the properties of the best iron for conducting magnetism, while chilled castings will make excellent permanent magnets. He suggests the use of the bronze containing 20 per cent of aluminum as telephone and telegraph conductors, believing that the bi-metallic character of the alloy will be found to be a corrective of self-induction. The principle of producing alloys by applying aluminous vapour in its nascent state is found to work with a long range of metals besides iron, and makes an exceedingly fine aluminum silver alloy, possessing valuable properties.—*The English Dental Record from Industries.*

THE "ELECTRO-METALLIC PLATE."

The gold (?) plates made, it is claimed, by a new process of electrolysis, and which are attracting much attention among the profession, I fear will not prove a success for several reasons.

They are represented to be gold, and while, of course, it is not denied that they are composed of three layers, two of silver and one of gold, they are mostly silver, for a very little polishing exposes the silver. And the fact that a large plate of this material costs but seven dollars, whereas if the same plate were 20-carat gold it would cost twelve to fifteen dollars, shows conclusively that it is principally silver.

How it is that pure gold and pure silver can be made as stiff and unyielding as an 18-carat gold plate is a mystery I would like to have solved. Of course, an alloyed plate cannot be made by electrolysis. Either metal alone is soft, but the two deposited in layers is rigid. But if this same plate is heated red, as in soldering it loses its rigidity, consequently teeth and clasps cannot be soldered to it. And right here is where there is going to be trouble.

Plates are liable from undue strain to break, and these plates it will be found, from their granular structure, will break more readily than metal which has been melted and rolled. When thus broken they become worthless from the fact that they cannot be soldered without being made soft and remaining in this condition.

It makes beautiful work, and a perfect adaptation to the mouth is secured; but be sure you are not giving your patients a gilded silver plate while they have paid for gold, and a plate which is worthless if ever cracked.

L. G. HASKELL.

TREATING AN EXPOSED NERVE.

DR. W. N. LE SUEUR, AUSTIN, TEXAS.

By interrogating the patient, who comes with an aching tooth, I am enabled to proceed more intelligently. For example, we will suppose an exposed nerve in the proximal surface. Apply the rubber-dam, and with care remove all loose decay; then place a separating rubber between the teeth to hold the dressing. Dry the cavity and apply a four per cent solution of cocaine on a small pledget of bibulous paper. As soon as the tooth feels comfortable, absorb the excess of cocaine and fill the cavity with a pledget saturated with chloro-percha. Dismiss the patient with instructions to return after thirty-six hours; but if convenient to the patient, allow this dressing to remain a week or ten days; then remove the separating rubber, and again apply the rubber-dam. Proceed to remove the cocaine and chloro-percha, and make the necessary preparation of cavity. Then, from a cork, cut a thin cap, slightly carbolize, and place over the nerve and secure it with balsam of fir followed by Welch's Phosphate of zinc, mixt thin. The tooth can be filled immediately, if so desired, with gold or amalgam, but if with gold, wait a month or two.

I have used this method for the past six months, and, though, in a majority of cases, the nerve has been exposed and inflamed, causing great suffering to the patient, I have had gratifying results.

The History of the Development of the Individual is simply that of the development of the individual cell. The ova is nothing more than a separate cell that has the power of reproducing itself. It exemplifies the division of life in the cell. All the changes of the body spring from these separate entities. All change must begin in these ultimate principles. We call the cell an ultimate principle because we do not know any other. These cells spring from pre-existing cells. The *de novo* origin of life is impossible. The only way in which life can be developed is from pre-existing life. We are creatures of environment, but we have the power of variably modifying our environment. That man is changing all the time cannot be questioned. We have evidence of that as far as we can go back in history. We adapt ourselves to different circumstances, and there has been no study in the world's history that promises more than that of personal and corporate hygiene. If we can better our environment, we better the conditions of life, and thereby lengthen life. Physiological chemistry is taking the lead to-day, and the man who can take up that study and follow it out will give us the most light in the future. There has never been a time in the world's history when we have had so much promise of benefit to mankind as at present, and it is largely due to our increasing knowledge of what true hygienic conditions are.—*Dr. W. X. Sudduth.*

OUR STANDING IN PROSTHETICS.

DR. S. L. EDWARDS, DES MOINES.

The ability to insert an artificial denture that shall meet all the requirements of utility, adaptation and natural expression, demands more years of patient study, practice and experience than any work done at the chair. Some say, "It don't pay me to spend my time making teeth at ten dollars a set." It ought not to pay any one. But if you can't do better work than the shops that turn them out at that price, where is the remedy? If you possess the requisite skill and will do yourself the justice to use it, you can make even a rubber plate that will not disgrace you—and get paid for it too. While visiting different offices I have often been amused at the assumed airs, "Oh, I never dirty my hands with that class of work, I leave that to the cheap Johns," or, as they say down south, "I have a nigger to do my plate work." Occasionally you find one old in the profession who *delegates* the "*mechanical* to the shops." Such almost invariably demonstrate the fact that they are not capable of constructing a *decent* artificial case. The renowned Josephs, of San Francisco, said: "After twenty years' experience, the first thing I would impress upon a *tyro* is that fiddle making is a trade, but violin-making is an art." Tooth filling as well as plate making is too often a mere trade, but properly restoring loss with artificial teeth with all that is implied in the operation is the acme of dental art, if there is any *art* in dentistry.

What signify the years of experiment and the skill required in making artificial teeth if they are to be used by a class of workmen incapable of making suitable selections. Let us get out of the old ruts. I think it about time we begin to see the folly of having fixed prices for this class of work. A tailor charges for a suit according to the grade of material used. He is a tradesman. Are we tradesmen or professionals? If shopping tradesmen, when may we ever hope to obtain deliverance from shopping customers? Another practice has brought much grief and shame—temporary dentures. Never tell your patient you will insert a temporary set with the understanding that after a while you will replace it with one of better quality. This gives an idea of small pay, and low prices always tend to a low grade of work. Use your best skill in replacing as soon as possible after extraction with the best work adapted to the case, charging full price and making your patient understand that you are not responsible for any changes of the mouth that may occur. We admire our code of ethics and boast of our dental laws. But all the ethics in christendom, nor all the legislation of the land, can remedy such blunders. The foundation of every man's character should be honesty. His statements and promises must be no deviation from this principle.—*Iowa Trans.*

The sixth annual meeting of the "Florida State Dental Association" will be held in Ocala, Florida, beginning on Wednesday, April 10th, 1889, and continue in session three days.

JOSEPH W. PEETE,

A Lively Dental Society.—The Missouri Dental Society held seventeen meetings, and heard and discussed fourteen papers during 1888; and, judging by the officers for 1889, it keeps its best men to the front.

Be more anxious to do better work than your neighbor than to compete with him in prices. The former will give you permanent superiority and success; the latter will give you the reputation of inferiority.

Conductors of Dental Journals should more thoroughly sift the productions which come to them for publication, and fearlessly reject those trashy articles which too often disgrace their pages. I need not particularize, for men of thought and discrimination too well know what I mean, having seen the inconsistencies, vagaries, and falsities, in print, to which I refer.—*Exchange.*

Fatigue in Dental Work.—We cannot too strongly urge the necessity for short sittings in our operating chairs. One hour to one and a half hours is my limit, except in very exceptional cases. Protracted operations not only weary, but exhaust, the nervous force of both patient and operator.—*Dr. C. N. Pierce.*

The Southern Illinois Dental Society will hold its third annual meeting at Carbondale, April 9, 10, 11. A cordial invitation is extended to all.

Exhibitors are invited to correspond with Dr. T. W. Prichett, Whitehall, chairman, *ex com.* Ample accommodation will be provided for clinics and exhibits.

C. B. ROHLAND, Sec.

G. W. ENTEMINGER, Pres.

Errors in our Standard Works.—We are painfully aware that not only the less positive scientific branches, which enter into the study of dentistry are enshrouded in mist and veiled with a certain amount of indefiniteness and unreliability, but we find that even those branches which are known as the foundation on which the others have been built are very crude, uncertain, and in many instances entirely false. This is true in some measure of dental anatomy. Many errors in relation to the anatomy of the teeth have crept into early editions on anatomy, or have been culled from works on general anatomy, written or revised by eminent scholars in general medical sciences. The statements have been accepted as facts, and published and republished till these fallacies have been well-grounded opinions of many members of the profession.—*Dr. Louis Ottofy.*

For Our Patients.

OLD, BUT WORTH REPEATING.

How much a man is like his shoes !
For instance, both a soul may lose ;
Both have been tanned ; both are made tight—
By cobblers ; both get left and right.
Both need a mate to be complete ;
And both are made to go on feet.
They both need heelings ; oft are sold,
And both in time will turn to mold.
With shoes, the last is first ; with men,
The first shall be the last ; and when
The shoes wear out they're mended new ;
When men wear out they're men dead, too !
They both are tread upon, and both
Will tread on others, nothing loth.
Both have their ties, and both incline,
When polished, in the world to shine ;
And both peg out. Now, would you choose,
To be a man or be his shoes ?

ALL ABOUT AN ACHING TOOTH.

Mr. R., was a small, pompous man who boasted of his aristocratic lineage and invincible courage.

Mr. R., had spent a sleepless night coqueting with a first-class toothache, and when morning dawned it is no wonder he felt tired of the festivities he indulged in. Mr. R.'s wife also showed signs of fatigue, for her husband had spiced up the situation by sundry lively gesticulations, and vehement declamations, which drove sleep from the entire household. It was, therefore, some relief to Mrs. R., when her eccentrically acting husband said in an emphatic tone of voice, and with an "I'll be darned" assurance of his earnestness that he intended to have "some impecunious dentist draw on that tooth (alluding to his aching molar) "if it bankrupt the firm, and hurled his entire family into the unexplored regions." And yet, it must be confessed, that Mrs. R. experienced sad misgivings as to the absolute sincerity of this pledge, knowing her husband's child like tenderness of heart—"dear soul," when confronting a contingency requiring the exercise of heroic pluck and indomitable courage.

Notwithstanding the fear entertained by Mrs. R., there was a faint tinkle of the bell belonging to Dr. H., at an early hour on this memorable morning, and soon thereafter Mr. R. was seated in an easy arm-chair, in the dentist's parlor, feeling as pompous as ever, but with an indescribable look of uncertainty on his face, which was pale and haggard. Mr. R. had just commenced to formulate a heroic salutation to the doctor, when a loud ring of the door bell diverted his thoughts from this preparatory study and soon a Dutchman of colossal propor-

tions was also escorted into the parlor, where he seated himself while panting and wheezing because of shortness of breath. After fully recovering his wind, addressing Mr. R., he said :

“ Vell, I tinks to mineself, when I vas ghoings here, ‘ Shutes, you pe der fust cushtumer in doze doctor shops ;’ but I vhas all rong in doze kalkerlashuns.”

After this profoundly eloquent introduction Shutes assumed a confidential air and told Mr. R., how, while assisting his wife in the preparation of a Christmas tree, he had innocently taken some candy from a package, and while eating it the dainty morsel had come in contact with a decayed tooth, when an explosion followed that sounded like a genuine earthquake ; and how he had thrown the tree and its rich decorations of condiments and toys, into the street, and on the whole extemporized a circus on a grand scale.

Mr. R. seemed as much amused at the Dutchman’s romantic recital as was consistent with clean cut dignity, and actually indulged in a quiet laugh when he had finished. As soon as his face assumed its normal expression he begged to assure Mr. Shute that he would “ with the greatest of pleasure, yield his claim to the first services of the doctor, for time, with him, was of no importance at all ;” and he would, doubtless, have said many more pretty things had not the dentist, at that moment, entered the room, and with a Merry Christmas expression of countenance, said, “ Well, gentlemen, what can I do for you ”—his eyes lingering all the while on the invincible Mr. R.

“ You will pardon me,” said this gentleman, slowly rising from his seat, while removing a massive chronometer from his pocket and bestowing on it a hurried glance, “ for troubling you so early in the morning. I wish you, sir, to extract a tooth for me ; but being in no hurry I will wait till you have attended to this gentleman”—waving his hand in the direction of the now trembling Shutes.

“ I vhas no hurry as nottings eder mine frent,” said Shutes, grasping for breath and twirling nervously at his mustache, “ dot shentleman, he come fust und I vate till he get through mit his pizzness.”

“ O, no, you are evidently in greater pain than I am.”

“ No, mise frent, I must be pelite, heven or hell.”

“ But—”

“ No, mise frent you too goot to wait me ; I cum after.”

“ Please walk into the office,” said the doctor, addressing Mr. R., pleasantly, who, in spite of fear and palpitating heart, was soon seated in the most dreaded operating chair.

“ I think I can save that tooth and make it useful for years,”

observed the doctor, encouragingly, after making a superficial examination of his patient's offending molar.

It is simply impossible to describe the change that took place in Mr. R.'s countenance when these hopeful words reached his ears. From a look of unutterable despair, caused by slavish fear, his face instantly assumed its accustomed expression of defiant arrogance ; and wishing to impress on the doctor his utter contempt for cowardice that would seek immunity from such a little thing as necessary pain, he said :

“But I came here, sir, to have that tooth extracted and I don't propose to stand any more of its nonsense.” Pausing a moment he added : “Do you really think, sir, that filling it will give me positive relief ?”

On a more critical examination of the organ the doctor discovered that it was elongated for want of an antagonizing tooth, and that its condition precluded the possibility of its restoration to health and usefulness. He therefore apologetically said :

“You will pardon me, dear sir, for being a little hasty in my diagnosis. I find, after a more thorough look at the tooth and its surroundings, that it is beyond any remedial relief. The best thing for you to do, therefore, is to have it extracted at once, for there are unmistakable symptoms of ulceration already developed, making its immediate removal an absolute necessity.”

Again a look of hopeless despair was seen in the boastful patient's face ; his body trembled like one with the ague, and, in a voice rendered almost inaudible by emotion, he replied :

“Really, doctor, really, I-I can't say that I will have the t-tooth taken out just now. I-I had an awful time with it last night and I feel very weak this morning.” Then changing his tone, as if by a sudden inspiration, he continued : “By the way, my dear sir, what do you think of the incoming adminstration ? Quite a flop over, sir, in politics in four short years ! The tariff question is a wonderful question, sir, and—”

“I am not much in politics,” interjected the doctor in a tone of voice that indicated the subject was distasteful to him. “The fact is professional duties absorb all my time and, excepting to vote, I leave the questions antagonizing the two dominant parties entirely to the arbitrament of the people. But, sir,” he added, in a thoughtful mood, “What about that troublesome tooth of yours ?”

“Yes, yes, ‘twisting and turning, wiggling and worming in the chair,’ we will come to that,” said Mr. R., in a husky voice, “but I can't help thinking how nearly your views on politics harmonize with my own. Our entire political system is a humbug, sir, a downright

fraud, sir ! and I don't care who knows that I entertain these views. I voted for Cleveland because he is an old crony of mine, sir, and not from faith in his ability or fitness to occupy the highest office in the nation ; but I wouldn't touch a local ticket with a ten foot pole, sir."

" You will excuse me," again interrupted the doctor ; " I have a patient waiting, besides important private matters require my attention. I will be happy to serve in extracting that tooth, if you will kindly permit me to do so."

" Certainly, my dear sir, certainly ! " exclaimed Mr. R., pompously, " Christmas is a day when we all should be relieved from the cares and anxiety of business. It is a sacred day, too, sir, and the church is right in reverencing it. Tho, sir, I am skeptical about many things in the Bible, and often indulge in long, logical arguments with eminent clergymen ; yet, sir, I believe in the Christ-child and the story of his divinity—Bob Ingersoll's views to the contrary notwithstanding."

" Please allow me to serve you so that I may attend to pressing duties," again suggested the discomfited dentist.

" One moment, sir, just one moment, sir," Mr. R., replied sharply. " I intended to speak to you about my wife's teeth, which want professional attention, and I must send her to you as soon as the holidays are over. But what do you think of my particular friend Stanley ? I tell you, sir, he has the pluck and physical courage I like : and yet, sir, I am utterly opposed to his mission, and have declared as much to my scientific friends ; for what good can it accomplish however successful it may prove ? You cannot civilize those African tribes in a million years and all the costly explorations, inspired by prospective commercial advantages, won't be worth their cost in money and human lives. It is all bosh ! sir ; yes, sir, all bosh ! "

" Well, well, my dear sir, suppose we explore a little nearer home," said the doctor petulantly, " you will pardon me for insisting on our immediate attention to business.

" Right, sir, perfectly right, my dear sir," was the quick rejoinder of Mr. R., again taking the chronometer from his pocket and examining it curiously. " I find, sir, that I am trespassing also on my own time, for I am to meet a gentleman on business this morning. You will therefore pardon me for leaving now, and believe me, that just as soon as I can spare a moment or so, I will call on you again and have the condemned tooth extracted."

Tho his breakfast had been now long waiting for him, the doctor, bidding good bye to Mr. R., went to his patient in the parlor and apologized for keeping him so long.

" Dot vhos all right mine frendt," said Shutes after a wheezy

cough. "I pees in no hurry 'pout diss business, so dot if you ish a mind to, I vait so long you get reddy."

"I am quite ready now," said the doctor, "so please come with me to the office."

Acting on this invitation Shutes got clumsily on his feet and followed the doctor as directed.

"Dot toosh, mine frendt," he began when seated in the dental chair, "makes me angree lass nite so dot I vas shust goeing to plo mine prains up mit a pisthal, und my wife, she say mebbe you fix it up so dot I have no more aches, und dots why I kums to see you about it."

"What kind of a pain is it?" inquired the doctor. "Is it an occasional, throbbing pain? Or is it a constant dull pain you experience?"

"It shumps, shumps, like dot," said Shutes giving his hand a rapid up and down movement; "und I shump too; und when I kums down mit de floor doze Kristmas tree, vot I gives somebody ten dollar for, it vhos all spilt out und I say to my wife "dunder und blitzen," 'und she say,' Shutes,' you be one dam fool?" Und I shust grabp up doze tree vhot be all full ov oxpensive things und I throw it into the strheet, den my wife she cry so dot her heart would prake into the middle ov next week und I vos sorry for doze tree, und—"

"Hold on! hold on!" exclaimed the doctor nervously, "never mind the Christmas tree, or next week. I have no time to listen to any more long stories this morning."

"Dots vhot I tolds my wife ven she make her face all redt mit her cry," said Shutes, oblivious to the doctor's admonitory words, "doze trees be no coot und when I pay's ten dollars for anodder one of dem I pees so pig a fool dot you see green in my eye like noddings—you kin shust bet on dot."

"Well, shall I treat your tooth or extract it?" asked the doctor in a voice denoting that he had taken an overdose of heart anguish.

"I guess I let it go diss time, frendt," said Shutes, at the same time getting on his pins, "fur it no more ache me already. When it shumps agin like it did last nite I kums to you, dots vot I'll do."

As soon as Shutes had gone, the doctor with a sad and melancholy expression of countenance, started for his dining-room. Meeting his wife on the way she wished him a Merry Christmas and he responded to the greeting in a weak, trembling voice. Of course, his steak was juiceless; his coffee flavorless; the rolls were dried out by too long contact with a hot oven, and worse than all, his appetite was gone and his head ached. After partaking sparingly of what was before him, he returned to his office and indulged in a soliloquize as to the profits of his morning's work.—*Practical Dentist.*

Editorial.

DIET AND SURROUNDINGS ON CHARACTER.

For two years we were on the secret police force of a large city. To go from our normal surroundings down into the slums to do our work was like going from heaven to hell. What made the difference? It was largely what they lived on. Physically, mentally, and morally, they lived on carrion—on the coarse, filthy, rotten things around them, and they smelt of them, and talked of them and wallowed in them, as well as lived on them, till their whole nature, habits, disposition, character, was made of them and by them. The children imbibed them from their mother's milk, loved them instinctly, and lived on them more and more till they, too, were made of them.

Do we, therefore, put forth a strange doctrine when we say we are largely what we are made of, and what our surroundings force on us?

If this is a fact with those who live in the slums of our great cities, may we not look for it as a fact everywhere?

When we hear a man talk like a dyspeptic, do we not naturally ask what he lives on? When we hear one talk like a villain, do we not believe him to have a villainous appetite for villainous food—physical and mental? If our diet is licentiousness, of course, we shall be licentious,—it will come out of our very mouth, and defile our very surroundings.

Thank the good Lord, the same law holds good in producing good character as bad. We are everywhere largely what we live on. As surely as a man can be made savage and cruel by his diet, so surely can his diet be made to contribute to loveableness, kindness, and purity; even our very bones feel our diet, so that the very teeth, the hardest bones in the body, show the diet they feed on.

We were once a terrible dyspeptic, and as irritable and cross and gloomy as dyspepsia can make one. Had our diet nothing to do with it? It and our surrounds had almost everything to do with it; for by eschewing those things, and conditions of living, that produced it, we ascended into a new atmosphere. We brought our diet and surrounding into harmony with the gospel of common sense, so that we rose from hell to heaven,—physically, morally and spiritually. It took time and courage and discipline; but it brought health and joyousness and usefulness.

Who can be a Christian with a lot of rotten villainy in his stomach? Of course, its very fumes will rise to heaven as a stench, or at least to his brain, and poison the very seat of life.

I am so glad we are largely what we make ourselves; that our

health and happiness, and usefulness, so much depends on our physical, mental and spiritual food; and that our food and circumstances and our social and moral status are largely subject to our will and good behavior.

Dr. Chase, of St. Louis, once wrote me that he could smell the aroma of strawberries in the exhalation from his arm, after eating them; just so surely the stench of onions, whiskey and tobacco saturates the whole body with their vileness. And is not the mind just as susceptible to what it eats as is the body!

As surely as the thousands on thousands of pores of our skin send out an atmosphere that even a dog can scent in following our footsteps, so surely are our fellows consciously or unconsciously attracted or repelled by the atmosphere—the unconscious influence of our character.

Let us, therefore, see that our diet and our surroundings are in harmony with what we would have our character; for this is not to be taken on and put off at will. It is a thing of growth; and that growth must be from what we feed on, and from the bed we choose to lie in.

HUSBANDS AT HOME.

“If you would know a man you must see him in his own home.” How true this is of most of us. When we are among friends where we would win their applause, or in business, where it is our interest to appear strictly correct, we consider ourselves “on our good behavior.” But when we come home “we must unbend ourselves a little, you know,” throw off our dignity and restraint and vent ourselves of any little passion or ill-will or vexation or disappointment; be humored after hard toil and trial, and find a home just prepared to our liking—wife cheerful, children pleasant, baby asleep, supper ready—and a good one at that—and everything in “apple pie order.”

O, what exacting creatures we husbands are? How selfish, often how petulant and unreasonable—a good flogging would do us more good than coaxing. And yet that is just what we would like to have tried, “because you know we are *master* in our own house;” wife herself knows better than to cross our path when she sees we are really on our metal; the only way is meekly to let us have our own way in everything, and just stand round as our most humble servant.

O, what a superior race we men are? meek as any lamb when we are wooing, sitting at my lady’s feet, adoring. When we would have her gracious consent to walk with us through life’s ruf path we are her servant; but my, how things change, with some of us, when the honeymoon has past!

Husbands, we ought to be ashamed of ourselves, and be lovers again.

IDIOSYNCRASIES.

These are unusual features in a person's impressibility, manners or habit. We have no good definition of the term, nor any lucid description of the phenomena.

We have known a man who could not eat eggs—nothing that had a moiety of egg in it. My father could not use milk. A noted physician of Philadelphia cannot tolerate the scent of a hyacinth; even the bulb of one in his room produces nausea, and one in full bloom anywhere within smell (and he smells them at a long distance) are intolerable; their proximity is detected tho too far off for conscious smell. Others are equally susceptible to other odors. One of the finest operators in dentistry we have ever known cannot work if looked at by a fellow dentist. Another is obliged to shut one eye to see to work well, tho both eyes are of equal clearness and are used together for every other purpose. We have all heard of ministers and lawyers who could not make an address unless they were allowed to dangle their watch chain, fumble with a coat button, or hold something in one of their hands. A minister being laft at by his wife for playing so incessantly with a button while preaching, said he did not believe it was true. The next Sunday morning she cut from his coat his favorite button. He had hardly more than announced his text before his fingers went for his coat button. It was not there, but still he fumbled for the button. No other button would do; it must be the one in that identical place. Still unconsciously he worked away at that mythical button, for tho it was not there his imagination supposed it there. Finally, he became conscious that something was wrong. Was there an omission in his notes? No. Was there some change in his pulpit surroundings? No. Still he felt embarrassed. What embarrassed him he could not divine. Perhaps some superior, some uncongenial or some disagreeable personage, or some severe critic, was in the audience. No; he could see none. Still his fingers were feeling for the absent button. The sermon was not long that morning, nor very good. In fact his closing prayer was incoherent and brought to a sudden stop. On his way home he spoke to his wife of his mysterious embarrassment. "O, well," said she, "I will sew on that button again." For the first time he now noticed the cause of his troubles—that button was gone. We have noticed dentists who could not work at the dental chair, only as they stood on one foot. It may be this is your own peculiarity—if so you won't know it till you are convinced by trying to work as well standing on both feet. Can you tell how you hold your instrument in excavating or filling a tooth? Each of us has our peculiar way, tho we are not conscious of it.

TEETH OF SOME ANIMALS.

G. B. Hays has an interesting article in the *Dental Register* on this subject. Among other things we are told the sloth, armadillo and ant-eater are edentalous ; that is, they have no teeth. Some animals have only one, an upper central incisor.

The cetacea, or whale class, have teeth similar in size and appearance, tho in some varieties a network or sive of bone (whale bone) takes the place of teeth. In this class the porpoise has from eighty to ninety teeth, and the dolphin two hundred, all quite similar in size and shape. The sperm whale has but few teeth in the upper jaw, and these are stunted and only partially developed ; they are sometimes quite buried in the dense gum during the whole life of the animal. In the lower jaw they are numerous. The norwhal, or North whale, has but a single tooth that is of use ; it has one other that is seldom erupted.

The teeth of the ruminata, or hoof animals, vary in number and character. The pig has forty-four.

The hollow horned ruminants, including sheep, cattle and antelopes, with most of the solid horned ruminants, have usually ten teeth below and six above, the upper jaw lacking the incisors and cuspids.

In the camel there is but one incisor above ; this antagonizes with three below. It has three back teeth above apposing two below.

Animals with a trunk, as the elephant, which is the only species of his genus extant, has two upper incisors (which prolong into tusks), and a succession of molar teeth which replace each other from behind forward. There are six on each side of each jaw, but only one or parts of two exposed at the same time.

Rodents, or gnawing animals, as the rat, usually have two incisors, tho the hare and the rabbit, which belong to this class, have four in the upper jaw. The molars vary from three to six.

The carnivorous, or flesh eating animals, have serrated teeth, greatly varying in size and shape, but rather uniform in number. The cat is a pretty good example. It has three incisors, one cuspid, three bicuspid and one molar in the upper jaw, and three incisors, one cuspid, two bicuspid and one molar below.

Men and monkeys have thirty-two teeth, tho the monkeys of the old world are in advance of the men in having an additional bicuspid on each side above and below.

Teeth not only differ in shape and number, but in character. The teeth of the shark, for instance, and some other fish, are embedded in the mucous membrane so as to turn back as food is received, and then resuming their upright position, prevent its escape. Other teeth are shed in sections as layers.

PROF. C. N. PEIRCE.

The Dean of the Pennsylvania College of Dental Surgery, whose portrait occupies the frontispiece in this issue of our Journal, has been longer identified with the faculty of this institution than has any other man now living ; having been elected to the chair of Dental Physiology, Histology and Operative Dentistry on the death of Prof. Elisha Townsend in 1858. This was four years after his graduation from the Philadelphia College of Dental Surgery in 1854. He was elected to the office of Dean in 1861, and held that position till he retired from the school in 1866. On being re-elected a member of the faculty in 1878, he was by his colleagues again placed in that office, which he has since held.

Prof. Peirce's long connection with the College as teacher and officer has probably made his influence an important factor in the success with which it has been favored. His willingness and capacity for work may be attributed to his inheritance, his Quaker education and his early training on a farm, having spent twenty-one years of his life doing the work required by that industry prior to 1849.

From the mild and childlike simplicity of his appearance and manners, one would hardly suppose him sufficiently positive, aggressive and commanding for the government of one of the leading,—if not the leading—dental colleges of the world. But those who know of that great controversy, on admitting lady students which came near wrecking that institution, but which proved its grandest triumph, by the iron will, sagacity and bold determination of this man, sees another instance of the almost contradiction of character in reformers,—urbanity, suavity and gentleness combined with physical and moral courage that brushes aside all opposition, and comes boldly to the front.

If we may allude to his ideas of life, we should say he believed largely in the influence of environment and necessity in the formation of character, thus making him charitable toward the evil doer, but a good hater of the sin.

Through his occasional papers in the dental journals, and his presence at the annual gatherings, he is too well known to the profession to need any extended introduction from this source.

Dr. Peirce has for over twenty years delivered each year before the classes of the Woman's Medical College of Pennsylvania ten lectures on dental physiology and dental pathology. This college being the first, and for many years the only medical college in this country, appreciating the importance of such instruction for the medical student. The practical information embraced in these lectures gives the woman physicians of this school great advantage in the treatment of painful abnormalities arising from defects in the oral cavity.

Miscellaneous.

FRUIT AS MEDICINES.

I once had a gentleman consult me for chronic constipation, and, very naturally, I prescribed some simple laxative to be taken at bed time, which acted admirably for awhile, but soon lost its efficacy, or required such an increase in dose that he decided to abandon it. I tried many similar remedies with like result, till finally my patient became disgusted with all, and had about made up his mind that he must suffer the remainder of his life. At this juncture a new idea struck me, and I advised him to adopt principally a fruit diet, and especially to eat nice mellow apples just before, or after, or in connection with, his regular meals, which he did, and with the very best result, for the constipation was entirely relieved, and he is always ready to take his medicine. Observation has taught me that in the apple, lemon and fresh fig we have a remedy that is excellent in the treatment of constipation, besides the nourishing properties that are to be obtained, especially in the apple and fig.

My next venture at the treatment of disease by fruit was with a lady friend, aged about 40, who had every symptom of diabetes. I tried all the remedies that I had ever read of, and all that my neighbor physicians could suggest, but all to no avail. Fortunately for my patient, she was the happy possessor of a nice vineyard—some ten acres of bearing vines of every variety of grapes. I inquired if she ate many grapes, and, to my surprise, she informed me that she rarely ever touched them, from the fact that they were so plentiful that she did not appreciate them as others did. I immediately suspended all medication, and placed her strictly on the grape diet, which effected a speedy and permanent cure, as it is now nearly six years, and there has never been any return of the symptoms.

My next venture in the fruit medication was tried during the summer of 1887. In this city our greatest disease during the summer months with children are cholera infantum, cholera morbus and chronic diarrhoea. I have known children to take it in the early part of the summer, and continue till late in the winter, with possibly no relief except temporary when kept under treatment with calomel, bismuth, pepsin, lactopeptin, etc." During the summer of 1887 my own little children were attacked, aged three and five years. Naturally, doctors are slow to physic their own family, and in this case it was no doubt fortunate for me. My children were very fond of bananas, and while hunting around for a suitable diet to place them on I argued with myself that in this particular fruit there could certainly be no harm, as they are not only nourishing in the highest degree, but at the same time very easily digested. So I commenced their use cautiously, and gradually increased to just as many as they desired to eat, and the troublesome diarrhoea was completely cured without a single dose of medicine. This fact led me to direct their use in my practice, and whenever I have been able to get the mother to carry out my directions in the administration of bananas I have never had any trouble with diarrhoea in children. It might be well to add that during the summer

of 1888 I permitted my children to eat them *ad libitum*, and they were not in the least troubled in that way, tho' we had plenty of it to contend with in the city.

Now, is it a fact that these cases were all benifited by the use of these various fruits, or would they have gotten well had they simply suspended the medicines and continued eating any and everything that they might want? My belief is that in each of the cases mentioned the cure was due to the fruit diet, from the fact that it has proven so in nearly every case where I have had an opportunity to give it a fair trial; and such opportunities are not a few, for in giving my experience I have only selected a few cases to show the effect that different kinds of fruits have had on certain forms of disease. I have also found the nice, ripe, juicy peach to be a fine laxative, but in our "summer complaint" among children they should be excluded entirely.

When we come to sum up our observations, is it not a fact that we are taught that if we would use more fruit and less meat that our doses of medicine could be made much smaller and farther between? But then, if we tell our patients such things they are apt to brand us as quacks who pretend to *cure* disease without medicine, and will surely hunt somebody who will physic them freely.—*Dr. H. S. Duncan, Burnington, Ala., in Medical World.*

What Shall We Eat?—When I examine the teeth of those who live in the cold regions, as the Esquimaux, who live entirely on a fatty diet, I find them of good character and structure; and as I pass to other regions, where the people live entirely on a vegetable and a fruit diet, I find their teeth of the same general character as those of the meat and fat eaters. Also, when we examine the teeth of the early races of this continent, or in any quarter of the globe, we find the same character of teeth associated with the greatest variety of food habit. The question arises whether a meat diet or a vegetable diet is best for the human race. I hold that we may eat almost any form of food, but that we are not built for a meat diet. This is my positive conviction. I know it is contrary to general opinion, and the shape of the teeth, especially of the canines, is cited in opposition to it. It is a fact that the human animal has comparatively smaller teeth than many of the herbivorous animals; that does not indicate a meat diet. We now live on a mixt diet, but I think the time will come when the human race will refuse to eat anything that "has just died," as Dr. Atkinson puts it. To my mind the whole human race is gradually advancing from a coarse stage of existence, from a time when the flora and fauna on the earth's surface were rude and coarse. Yet that is an expression which we cannot properly use in this connection, because there is nothing coarse or fine in nature; but still there is a difference in the grain, not only in organized beings, but in vegetables that then existed; they were coarser in grain and coarser of organization than those of the present, and probably those of the future; and the reason, I think, lies in the fact that the food of those animals and vegetables was in a comparatively coarse and crude condition. The earth has been going through a refining process, as it were, and we find a different race of animals and a different race of men; and this change will go on till that condition comes when the earth will be peopled

by a race of men and women who will not only not eat meat, but will probably be so spiritually improved by the better food taken into their systems that they will be an entirely different race from that which now exists. I believe that all nature points to that result. I believe that not only this earth, but the great series of worlds, every one of which is, or will be, peopled similarly to ours, must eternally advance toward the good in the refinement and elevation of the races which exist on them.—*Dr. James Truman, Philadelphia, at N. Y. Society in the International.*

Scabby Lips.—I presented at the clinic of the First District Dental Society, N. Y., a case of lupus erythematosus of the lips, in which there is a peculiar functional activity. It is what is sometimes termed scabbing of the lips. The skin peels off every twenty-four hours. There seems to be at times no help for it. Whether this malady be a local expression of a constitutional disturbance or not, I do not know. In this case the patient is forty years of age; he has no scrofula, and no specific taint; he never tasted a glass of liquor, nor did he ever smoke. He is a powerful man. Evidently his blood contains a great deal of iron, and yet he has been under the care of one of the best New York physicians, who is unable to cure that little disease of the lips. Now, what is the difference between this and Riggs's disease? It is simply a want of functional harmony. In one case you have something resembling atrophy, and in the other hypertrophy, and they may be both local expressions of constitutional disease. Regarding the treatment of Riggs's disease, I believe every intelligent dentist and physician looks to the general health of his patient and prescribes for anemia if that treatment be indicated. Whether you use iron or any other of the restorative agents for increasing the red blood-corpuscles, if you improve the general health by so doing, you must necessarily relieve the local disease. As far as the mechanical part of the treatment is concerned, I do not think it necessary to say anything. Every gentleman present knows, I think, how to use the instruments and use them skilfully.—*Dr. Weld, in the First Dental Society of N. Y.*

[I saw that case. The doctor says the patient is not of a strumous habit. He has the thick blubber lips that belong to the strumous habit. My impression is that a solution of salicylic acid in alcohol, properly diluted or of full strength, to paint the lips and cook the epithelium so as to make a scab and allow the parts underneath to heal, will work entire cure in that case. That it has any of the characteristics of lupus I did not discover. There was no eating about it. Lupus means a wolf, and all the cases of lupus that I have seen have had a ragged edge as though they were eaten away. They are not very malignant till they have been a long time in the system and have been given opportunity for deteriorating the pabulum that is to be transported to other parts of the system.—*Dr. Atkinson.*]

For Burns and Scalds there is nothing better than common baking soda. If the skin is removed use it dry, covering with a little dry cotton cloth; if the skin is unbroken, put on the powder, wrapt in cotton cloth kept wet. The smarting soon subsides, and the healing takes place rapidly. Phenol sodique has the same effect.